EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Watson on 7/22/08.

2. The application has been amended as follows:

Claim 1 has been replaced with the following: --

1 (Amended). A system for automatically matching preamplifiers in a microphone array, comprising:

injecting at least one excitation pulse directly into each preamplifier in the microphone array;

measuring each preamplifier output response to each excitation pulse;

performing a frequency-domain analysis of the measured preamplifier output response to each excitation pulse; and

computing frequency-domain compensation gains from the results of the frequency-domain analysis for matching the output of each preamplifier without consideration of the operational characteristic of a microphone in the microphone array coupled to each preamplifier. –

Claim 9 has been replaced with the following: --

9 (Amended). A method for automatically matching preamplifier frequency-domain responses in a microphone array, comprising using a computing device to:

generate at least one analog excitation pulse of a predetermined phase, magnitude and duration and provide the at least one generated analog excitation pulse directly to an input of each preamplifier in a microphone array;

digitize an output resulting from each excitation pulse for each preamplifier in the microphone array;

perform a frequency-domain analysis of the digitized output for each preamplifier in the microphone array; and

compute frequency-domain compensation gains from the results of the frequency-domain analysis for matching the output of each preamplifier in the microphone array with each other without consideration of the operational characteristic of a microphone in the microphone array coupled to each preamplifier. –

Claim 15 has been replaced with the following: --

15 (Amended). A system for automatically calibrating preamplifiers in a microphone array to provide matched preamplifier outputs, comprising:

a microphone array including at least one microphone, each microphone further including at least one preamplifier;

said microphone array further including a switchable pulse generation circuit for generating excitation pulses of a predetermined duration, magnitude and phase;

remotely initiating generation of at least one excitation pulse in the switchable pulse generation circuit from a remote computing device coupled to the microphone array via a computer interface;

automatically injecting each excitation pulses directly into each preamplifier;

measuring an output resulting from each injected excitation pulse for each preamplifier;

providing the measured output for each preamplifier to the remote computing device via the computer interface;

on the remote computing device, performing a frequency-domain analysis of the measured output for each preamplifier; and

computing frequency-domain compensation gains from the results of the frequency-domain analysis for matching the output of each preamplifier in the microphone array with each other without consideration of the operational characteristic of a microphone in the microphone array coupled to each preamplifier. –

3. The above amendment is necessary to distinguish the present invention from the prior art in the record. The appeal brief clearly indicated that the present invention is not intended to match the output from a complete channel, formed by the combination of a microphone and a preamp coupled to the microphone. The present invention matches the output of the preamps in the microphone array by directly inject the pulse to the preamps, bypassing the microphones. Therefore, the operation characteristic of the microphones is not considered during the matching of the preamps in the microphone array.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/
Primary Examiner, Art Unit 2615

pwl